September 1, 2005

email & regular mail

Ms. Toni Hemerka, Borough Manager
Borough of Bally
P.O. Box 217
Bally, PA 19053

&

Mr. Greg Unger, P.E.
Systems Design Engineering, Inc.
1032 James Drive
Leesport, PA 19533

Re: Proposed pumping test of a new well on the [redacted] property, as a replacement for Bally Well #3

Dear Toni & Greg:

I have completed a review of the 8/17/05 & 8/22/05 ARCADIS letters concerning the development and planned pumping test of the well on the Longacre property.

The scope of monitoring (number and location of observation points) for the planned pumping test appears appropriate, however I am concerned over the proposed 48-hr duration of the pumping test. During last year's discussions with ARCADIS over a potential pumping test of the then-planned well on the Shuhler property, we had relatively extensive discussions concerning the need for an extended pumping test period. It was the consensus then that a test pumping period of something on the order of 1 week would be necessary. The Shuhler well was in a Limestone Fanglomerate member of the Brunswick Formation aquifer; and the Brunswick typically behaves in a semi-confined or confined fashion, with rapid development of a cone of depression from a pumping well.

The Leithsville Formation bedrock aquifer at the Longacre well site may also behave in a semi-confined or confined fashion, with a rapid spread to the cone of depression. However, as noted in the recent ARCADIS letters, there is a thick blanket of colluvium (reported as gravelly, clayey soil) at this well, and the water level in the well falls within this colluvium. The high storage coefficient of the

colluvium may dampen drawdown due to the processes of "leakage" or "delayed drainage." This dampening of drawdown would only be temporary if "delayed drainage" takes place. Thus, a 48-hr-long test could give the illusion of minimal drawdown in certain areas, while the rate of drawdown could accelerate with prolonged pumping beyond 48 hours, after the effects of delayed drainage have passed. In the August 22, 2005, ARCADIS letter, they note a "stabilization" of drawdown after approximately 45 hours during the June 2005 preliminary pumping test of the 6-inch test well on the Longacre property; and a rapid recovery of the water level in the well following cessation of pumping. Both an apparent "stabilization" of drawdown during the pumping period and rapid recovery following cessation of pumping are indications that there may have been leakage or delayed drainage during the pumping test.

Hence, given: (1) the potential for a temporary dampening of drawdown due to delayed drainage followed by accelerated drawdown once the effects of delayed drainage have passed, and (2) the concern that the new well not cause any significant drawdown near the existing TCE pl[redacted]ld seem more critical in the case of this well than in the case of the earlier proposed well on the Shuhler property to complete a longer term pumping test than the 48-hr test proposed. Sticking to the originally discussed one-week-long test period would seem to be paramount in this case.

I trust that this review is responsive to your request.

Sincerely,

Peffer Geotechnical Corporation

Jeff Peffer, P.G., P.E., President

Cc: Tom Fridirici, PaDEP (email only)
Christopher Sharpe, ARCADIS (email only)
Mitch Cron, USEPA, (email only)